PROJECT NUMBER: 1708
PROJECT TITLE: Physical and Chemical Properties of Tobacco
PROJECT LEADER: M. E. Counts
PERIOD COVERED: October, 1987

I. ALTERNATE HUMECTANTS (J. Crump, E. Mooz)

A. Objective: To find a plasticizer/humectant system that provides acceptable sheet materials without glycols.

B. Status: Plans for the Alternate Humectant Program for 1988 have been submitted to management for approval (1). A meeting was held with Park 500 and BL Plant personnel to discuss making PG/G-free sheet (using scrap, isosweet, and potassium propylparaben [K-pp], with no class tobacco, PG, or G). Three modes of operating Park 500 were discussed and the quantity of K-pp required for each mode was estimated (2).

PG/G-free RLTC and RL150B test sheets are being made in C Pilot Plant with two levels of isosweet and K-pp.

C. Plans: PG/G-free sheets made in C Pilot Plant will be tested chemically, microbiologically, toxicologically, physically, and subjectively prior to production plant runs. Hand-made PG/G-free RCB sheets will be made in C Pilot Plant.

D. References:

1. Mooz,E., Plans for the Alternate Humectant Program for 1988: Production of a PG/G-free Cigarette, September 25, 1987.

2. Mooz,E., Alternate Humectant Program Meeting: Use of Potassium Propylparaben in Production Plant Sheets, October 29, 1987.

II. GLYCERIN FREE SHEET/CIGARETTES (J. Crump, E. Mooz)

A. Objective: To provide acceptable glycerin-free RLTC, RL150B, and RCB sheets and cigarettes for the European market.

B. Status: C Pilot Plant test sheets of RLTC and RL150B containing various levels of isosweet and PG and no class tobacco or glycerin have been made into 100% cigarettes. Analytical results were obtained.

G-free sheets made at Park 500 and the BL Plant have been made into 100% cigarettes. Analytical testing was completed. G-free sheets were also used in blended cigarettes using all G-free tobacco components and casings (in collaboration with J. Hickle).

C. Plans: G-free test sheet 100% cigarettes will be submitted for subjective evaluation. G-free blended cigarettes will be submitted for subjective evaluation when analytical testing is completed.

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III. LOW DENSITY RODS (S. Ganeriwala, M. E. Counts)

A. **Objective**: To compare compression properties of individual low density and standard density rods and to measure compression responses of control and test filler used in these rods as a function of moisture and temperature.

B. **Status**: Constant compression rate testing at standard conditions of low density rods from a binder concentration study is nearly complete. Average initial force-displacement slopes at low loads generally decrease with decreased binder level for 580mg and 725mg target rods. There were inconsistencies for the 650mg target rods. Forces at 1, 1.5, 2, and 3.5 mm displacement followed these trends. Additional testing will be done to verify these results.

A second set of test rods is also being studied. This set includes standard density rods made with control, water sprayed, and unactivated binder-applied filler. Low density rods with different weight reductions are also included.

C. **Plans**: Continue constant rate compression testing of the above described materials.

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